

Appl. No. 10/604,590
Amdt. dated February 14, 2005
Reply to Office action of November 16, 2004

REMARKS/ARGUMENTS

Claims 1-4, 6, 7, 12, 13, 19, and 20 are rejected under 35 U.S.C 102(b) as being anticipated by Farrell (US Pat. 5143433). Claims 9, 11, 12, and 18 are rejected under U.S.C 103(a) as being unpatentable over Farrell in view of Yamamoto et al. (US Pat. 6089739). Claims 5, 8, 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell. Claims 10, 16, and 17 are rejected under U.S.C 103(a) as being unpatentable over Farrell in view of Peppers (US Pat. 4598347). In response to the Office action identified above, please accept the following remarks.

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Examiner:

1. Claims 1-4, 6, 7, 12, 13, 19, and 20 are rejected under 35 U.S.C 102(b) as being anticipated by Farrell (US Pat. 5143433).

15 Farrell discloses a back light unit (Figs. 1, 8 and 9) disposed under a display panel (12) comprising: light tube generators (18) arranged in parallel for providing light sources; an uneven diffusing sheet (16) interposed between the light source generators (18) and the display panel (12) for scattering the light sources generated from the light sources generators to the display panel; and a reflecting sheet (20) disposed under the light source generators (18) for reflecting the light sources upward to the diffusing plate (16), the reflecting sheet comprising a plurality of openings/slots (23) disposed directly under the light sources, wherein the openings/slots inherently functions as a mean for transferring an energy/heat of light sources.

25 **Response:**

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According to Fig. 9 of Farrell's invention, the backlight unit comprises a primary light source (18) and a secondary light source (37), in which the primary light source is located between a diffusing sheet (16) and a reflecting sheet (20). The reflecting sheet comprises a plurality of openings (23) and the secondary light source is located behind the diffusing sheet and the openings. In contrast to the claimed invention that discloses a plurality of openings below a light source, the openings from the Farrell's invention are located in between the primary light source and the secondary light source. Hence, the structure of the backlight unit of the claimed invention is significantly different from the one disclosed in Farrell's invention.

Moreover, the openings disclosed in Farrell's invention are used as a passage for light transfer, in other words, the openings essentially allow the light from the secondary light source to pass to the diffusing sheet. In contrast to the openings formed on the reflecting sheet of the claimed invention that principally functions as a means for transferring heat generated from the light source, the Farrell's invention never teaches that the openings between the primary light source and the secondary light source can function as a means for improving the heat transfer rate of the backlight unit. More specifically, the openings (23) shown in Fig. 8 and 9 are blocked by a filter plate (39) and thus the heat cannot be transferred to the outside via the openings.

According to Chapter 2112 in the MPEP, in relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. Since the inherency of heat transfer does not flow from the teachings of Farrell, claims 1 and 12 should be novel based on the above analysis, and since claims 2, 3, 4, 6, and 7 are dependent upon claim 1 and claims 13, 19, and 20 are dependent upon claim 12, the claims 2-4, 6, 7, 13, 19, and 20 should be allowed if claims 1 and 12 are allowed. Reconsideration of claims 1-4, 6, 7, 12, 13, 19, and 20 is politely requested.

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2. **Claims 9, 11, 12, and 18 are rejected under U.S.C 103(a) as being unpatentable over Farrell in view of Yamamoto et al. (US Pat. 6089739).**

5 **Response:**

According to Yamamoto's invention, a surface light source device (Fig. 1) comprises a housing (7) disposed under and surround a reflecting sheet (3), in which the housing includes a plurality of heat dissipating holes (7a, 7b). In contrast to Yamamoto's invention, the heat dissipating holes of the claimed invention are formed on the reflecting sheet. Since
10 Yamamoto never teaches a backlight unit with heat dissipating openings formed on the reflecting sheet of the backlight unit for transferring heat from the light source, claims 9, 11, 12, and 18 should be non-obvious. Reconsideration of claims 9, 11, 12, and 18 is politely requested.

15 **3. Claims 5, 8, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell.**

Response:

According to Farrell's invention, the backlight unit comprises a primary light source (18)
20 and a secondary light source (37), in which the primary light source is located between a diffusing sheet (16) and a reflecting sheet (20). The reflecting sheet comprises a plurality of openings (23) and the secondary light source is located behind the diffusing sheet and the openings. In contrast to the claimed invention that discloses a plurality of openings below a light source, the openings from the Farrell's invention are located in between the primary
25 light source and the secondary light source.

Moreover, the openings disclosed in Farrell's invention are used as a passage for light

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transfer, in other words, the openings essentially allow the light from the secondary light source to pass to the diffusing sheet. In contrast to the openings formed on the reflecting sheet of the claimed invention that principally functions as a means for transferring heat
5 generated from the light source, the Farrell's invention never teaches that the openings between the primary light source and the secondary light source can function as a means for improving the heat transfer rate of the backlight unit. More specifically, the openings (23) shown in Fig. 8 and 9 are blocked by a filter plate (39) and thus the heat cannot be transferred to the outside via the openings.

10 As claims 5 and 8 are dependent upon claim 1 and claims 14 and 15 are dependent upon claim 12, the claims 5, 8, 14, and 15 should be allowed if the claims 1 and 12 are allowed. Reconsideration of claims 5, 8, 14, and 15 is politely requested.

15 **4. Claims 10, 16, and 17 are rejected under U.S.C 103(a) as being unpatentable over Farrell in view of Peppers (US Pat. 4598347).**

Response:

According to Farrell's invention, the backlight unit comprises a primary light source (18) and a secondary light source (37), in which the primary light source is located between a
20 diffusing sheet (16) and a reflecting sheet (20). The reflecting sheet comprises a plurality of openings (23) and the secondary light source is located behind the diffusing sheet and the openings. In contrast to the claimed invention that discloses a plurality of openings below a light source, the openings from the Farrell's invention are located in between the primary light source and the secondary light source.

25 Additionally, the openings disclosed in Farrell's invention are used as a passage for light transfer, in other words, the openings essentially allow the light from the secondary light

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source to pass to the diffusing sheet. In contrast to the openings formed on the reflecting sheet of the claimed invention that principally functions as a means for transferring heat generated from the light source, the Farrell's invention never teaches that the openings
5 between the primary light source and the secondary light source can function as a means for improving the heat transfer rate of the backlight unit. More specifically, the openings (23) shown in Fig. 8 and 9 are blocked by a filter plate (39) and thus the heat cannot be transferred to the outside via the openings.

Moreover, Peppers discloses a lighting unit comprising a light source (32), a reflecting
10 sheet (36) disposed on an uneven housing with a plurality of elongated fins (13) for reducing heat concentration in the lighting unit. In contrast to Pepper's invention, the claimed invention includes a plurality of heat dissipating holes on the reflecting sheet for radiating heat. Evidently, the structure of the lighting unit of the claimed invention is significantly different from the one disclosed in Pepper's invention.

15 As claims 10 is dependent upon claim 1 and claims 16 and 17 are dependent upon claim 12, the claims 10, 16, and 17 should be allowed if the claims 1 and 12 are allowed. Reconsideration of claims 10, 16, and 17 is politely requested.

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Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

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Sincerely yours,

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